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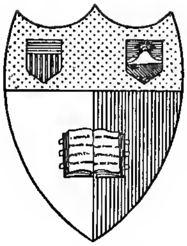

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DEPARTMENT OF APPLIED STATISTICS
(COMPUTING SECTION)
UNIVERSITY OF LONDON, UNIVERSITY COLLEGE

TRACTS FOR COMPUTERS

EDITED BY KARL PEARSON, F.R.S.

No. IV

Tables of the Logarithms of the Complete Γ-function to Twelve Figures

Originally computed by
adrien
A. M. LEGENDRE,
Membre de l'Académie royale des Sciences, F.R.S.

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Legendre

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Ces tables ont été enfin construites après une multitude de recherches entreprises dans la vue de découvrier les méthodes et les formules les plus propres à diminuer la longueur et la difficulté des calculs.

Legendre: *Traité des Fonctions Elliptiques,* Tom. I., p. 3.

LEGENDRE'S TABLE OF THE COMPLETE Γ-FUNCTION

This table was originally published in Tom. II. (pp. 490–499) of Legendre's *Traité des Fonctions Elliptiques, avec des Tables pour en faciliter le calcul numérique,* Paris, 1825. That work, full of most exciting and valuable material, much of which is now neglected, has become very scarce and very costly. There must be numerous mathematicians who have been seeking all their lives for a copy they could afford to purchase. It contains numerous tables of which many others than that of the Γ-function are of essential value to the computer. There are all sorts of tables to 10 or more significant figures even of familiar functions which are not to be found easily elsewhere, and deserve republication. Should this reprint show that there is an adequate demand for such tables, I hope to be able to issue other facsimiles of Legendre's creative energy. Those whose arduous labours have been shortened by Legendre's earlier computing work, and who possibly have looked upon him as a mathematician *sans phrase,* may be helped by our frontispiece to realise the humour of the situation when they see the real Legendre in the flesh. The scientific friendship will undoubtedly become a personal one in the case of any computer who is a humanist.

One of the many reasons for this reissue of Legendre's Γ-function table is that the Tables of the Incomplete Γ-function i.e. of the integral

$$I_x(p) = \int_0^x e^{-x}\, x^{p-1}\, dx / \Gamma(p),$$

prepared by the computing section need as a companion volume a table of the complete Γ-functions. It is true that such a table adequate for most purposes is already provided in the *Tables for Statisticians* (Table XXXI) issued by the Cambridge University Press. This table, however, only gives the logarithms of the complete Γ-function to seven decimal places, Legendre's table provides twelve decimal places. We have found for many purposes especially in the construction of tables of other functions that it is needful to work with at least ten figures, and so to use the original Legendre table in association with Vega's original table of logarithms to ten places. If, however, for any special purpose we need the full range of Legendre's values (i.e. twelve figures), then they can only be used in association with Briggs' *Arithmetica logarithmica,* a work sadly needing re-editing.

Legendre's Table for the complete Γ-function is here reissued preserving his first, second and third *forward* differences. These suffice to show that the fourth differences are of no importance to 12 figure computation. Accordingly it is adequate and, perhaps, more convenient in the case of any one having a machine to enter the table by Everett's central difference formula:

$$u_\theta = \phi u_0 + \theta u_1 - \tfrac{1}{6}\theta\phi\,\{(\phi+1)\,\delta^2 u_0 + (\theta+1)\,\delta^2 u_1\}.$$

In order to realise what we are doing we must note that Legendre prints as "Diff. I.," $u_0 - u_1$ and places this on a line with u_0. In the same way his Diff. II. is

$$u_0 - u_1 - (u_1 - u_2) = u_0 + u_2 - 2u_1,$$

and this is placed again in parallel with u_0. But this is the value of $\delta^2 u_1$. In other words the central difference of each function value must be read off in Legendre's column "II" of differences, *in the line above that of the function value.* Thus we need to work only with column II. reading as central difference the column shifted up one line.

For example: Find $\log \Gamma\,(1{\cdot}078{,}3649)$.

We have

$$\theta = {\cdot}3649, \quad \phi = {\cdot}6351.$$

$$u_0 = 9{\cdot}982{,}541{,}524{,}262, \quad \delta^2 u_0 = 640{,}746,$$
$$u_1 = 9{\cdot}982{,}343{,}916{,}451, \quad \delta^2 u_1 = 639{,}894.$$

Accordingly

$$\begin{aligned} u_\theta = 9{\cdot}982 &+ {\cdot}6351 \times 541{,}524{,}262 \\ &+ {\cdot}3649 \times 343{,}916{,}451 \\ &\quad - {\cdot}03862467\, \{1{\cdot}6351 \times 640{,}746 \\ &\qquad + 1{\cdot}3649 \times 639{,}894\} \\ = 9{\cdot}982 &+ 469{,}417{,}171(8) - 074{,}200(9) \end{aligned}$$

or

$$\log \Gamma\,(1{\cdot}078{,}3649) = 9{\cdot}892{,}469{,}342{,}971.$$

The whole of the work done is exhibited above except what is done on the machine. If the reader prefers to work by forward differences, he must bear in mind that Legendre used differences of the Newtonian sign, or, if D^{I}, D^{II}, D^{III} represent his printed differences, his forward difference formula is

$$u_\theta = u_0 - \theta D^{\mathrm{I}} u_0 - \tfrac{1}{2}\theta\,(1-\theta)\, D^{\mathrm{II}} u_0 - \tfrac{1}{6}\theta\,(1-\theta)\,(2-\theta)\, D^{\mathrm{III}} u_0.$$

In our case

$$\theta = {\cdot}3649, \quad u_0 = 9{\cdot}982{,}541{,}524{,}262,$$

$$\begin{aligned} D^{\mathrm{I}} u_0 &= 197{,}607{,}811, \\ D^{\mathrm{II}} u_0 &= 639{,}894, \quad \tfrac{1}{2}\theta\,(1-\theta) = {\cdot}115{,}873{,}995, \\ D^{\mathrm{III}} u_0 &= 851, \quad \tfrac{1}{6}\theta\,(1-\theta)\,(2-\theta) = {\cdot}063{,}155{,}189(7), \\ u_\theta &= 9{\cdot}982{,}541{,}524{,}362 - 72{,}107{,}090(2) \\ &\qquad - 74{,}147(1) \\ &\qquad - 53(7) \end{aligned}$$

or

$$\log \Gamma\,(1{\cdot}078{,}3649) = 9{\cdot}982{,}469{,}342{,}971$$

as before. There is very little to choose between the labour involved in the two processes, but the use of central differences would have saved Legendre two of his difference columns, or the printing of 12,000 figures.

a.	Log. Γa.	Diff. I.	II.	III.	a.	Log. Γa.	Diff. I.	II.	III.
1.000	0.000 000 000 000	250 324 559	713 343	1039	1.050	9.988 337 858 790	215 878 738	664 580	911
1.001	9.999 749 675 441	249 611 216	712 304	1038	1.051	9.988 121 980 052	215 214 158	663 669	911
1.002	9.999 500 064 225	248 898 912	711 266	1034	1.052	9.987 906 765 894	214 550 489	662 758	908
1.003	9.999 251 165 313	248 187 646	710 232	1031	1.053	9.987 692 215 405	213 887 731	661 850	904
1.004	9.999 002 977 667	247 477 414	709 201	1030	1.054	9.987 478 327 674	213 225 881	660 946	902
1.005	9.998 755 500 253	246 768 213	708 171	1024	1.055	9.987 265 101 793	212 564 935	660 044	902
1.006	9.998 508 732 040	246 060 042	707 147	1025	1.056	9.987 052 536 858	211 904 891	659 142	898
1.007	9.998 262 671 998	245 352 895	706 122	1020	1.057	9.986 840 631 967	211 245 749	658 244	896
1.008	9.998 017 319 103	244 646 773	705 102	1018	1.058	9.986 629 386 218	210 587 505	657 348	893
1.009	9.997 772 672 330	243 941 671	704 084	1014	1.059	9.986 418 798 713	209 930 157	656 455	893
1.010	9.997 528 730 659	243 237 587	703 070	1014	1.060	9.986 208 868 556	209 273 702	655 562	887
1.011	9.997 285 493 072	242 534 517	702 056	1008	1.061	9.985 999 594 854	208 618 140	654 675	888
1.012	9.997 042 958 555	241 832 461	701 048	1008	1.062	9.985 790 976 714	207 963 465	653 787	886
1.013	9.996 801 126 094	241 131 413	700 040	1004	1.063	9.985 583 013 249	207 309 678	652 901	880
1.014	9.996 559 994 681	240 431 373	699 036	1002	1.064	9.985 375 703 571	206 656 777	652 021	882
1.015	9.996 319 563 308	239 732 337	698 034	998	1.065	9.985 169 046 794	206 004 756	651 139	878
1.016	9.996 079 830 971	239 034 303	697 036	998	1.066	9.984 963 042 038	205 353 617	650 261	876
1.017	9.995 840 796 668	238 337 267	696 038	992	1.067	9.984 757 688 421	204 703 356	649 385	873
1.018	9.995 602 459 401	237 641 229	695 046	992	1.068	9.984 552 985 065	204 053 971	648 512	871
1.019	9.995 364 818 172	236 946 183	694 054	989	1.069	9.984 348 931 094	203 405 459	647 641	871
1.020	9.995 127 871 989	236 252 129	693 065	985	1.070	9.984 145 525 635	202 757 818	646 770	866
1.021	9.994 891 619 860	235 559 064	692 080	983	1.071	9.983 942 767 817	202 111 048	645 904	865
1.022	9.994 656 060 796	234 866 984	691 097	982	1.072	9.983 740 656 769	201 465 144	645 039	863
1.023	9.994 421 193 812	234 175 887	690 115	977	1.073	9.983 539 191 625	200 820 105	644 176	861
1.024	9.994 187 017 925	233 485 772	689 138	975	1.074	9.983 338 371 520	200 175 929	643 315	859
1.025	9.993 953 532 153	232 796 634	688 163	974	1.075	9.983 138 195 591	199 532 614	642 456	855
1.026	9.993 720 735 519	232 108 471	687 189	971	1.076	9.982 938 662 917	198 890 158	641 601	855
1.027	9.993 488 627 048	231 421 282	686 218	967	1.077	9.982 739 772 819	198 248 557	640 746	852
1.028	9.993 257 205 766	230 735 064	685 251	966	1.078	9.982 541 524 262	197 607 811	639 894	851
1.029	9.993 026 470 702	230 049 813	684 285	962	1.079	9.982 343 916 451	196 967 917	639 043	846
1.030	9.992 796 420 889	229 365 528	683 323	961	1.080	9.982 146 948 534	196 328 874	638 197	848
1.031	9.992 567 055 361	228 682 205	682 362	957	1.081	9.981 950 619 660	195 690 677	637 349	843
1.032	9.992 338 373 156	227 999 843	681 405	956	1.082	9.981 754 928 983	195 053 328	636 506	842
1.033	9.992 110 373 313	227 318 438	680 449	954	1.083	9.981 559 875 655	194 416 822	635 664	838
1.034	9.991 883 054 875	226 637 989	679 495	948	1.084	9.981 365 458 833	193 781 158	634 826	839
1.035	9.991 656 416 886	225 958 494	678 547	950	1.085	9.981 171 677 675	193 146 332	633 987	836
1.036	9.991 430 458 392	225 279 947	677 597	945	1.086	9.980 978 531 343	192 512 345	633 151	833
1.037	9.991 205 178 445	224 602 350	676 652	942	1.087	9.980 786 018 998	191 879 194	632 318	830
1.038	9.990 980 576 095	223 925 698	675 710	942	1.088	9.980 594 139 804	191 246 876	631 488	831
1.039	9.990 756 650 397	223 249 988	674 768	938	1.089	9.980 402 892 928	190 615 388	630 657	828
1.040	9.990 533 400 409	222 575 220	673 830	935	1.090	9.980 212 277 540	189 984 731	629 829	824
1.041	9.990 310 825 189	221 901 390	672 895	934	1.091	9.980 022 292 809	189 354 902	629 005	822
1.042	9.990 088 923 799	221 228 495	671 961	930	1.092	9.979 832 937 907	188 725 897	628 183	824
1.043	9.989 867 695 304	220 556 534	671 031	929	1.093	9.979 644 212 010	188 097 714	627 359	819
1.044	9.989 647 138 770	219 885 503	670 102	927	1.094	9.979 456 114 296	187 470 355	626 540	816
1.045	9.989 427 253 267	219 215 401	669 175	923	1.095	9.979 268 643 941	186 843 815	625 724	815
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1.102	9.977 973 848 969	182 480 802	620 057	801	1.152	9.969 594 099 552	152 423 469	582 223	715
1.103	9.977 791 368 167	181 860 745	619 256	799	1.153	9.969 441 676 083	151 841 246	581 508	711
1.104	9.977 609 507 422	181 241 489	618 457	799	1.154	9.969 289 834 837	151 259 738	580 797	707
1.105	9.977 428 265 933	180 623 032	617 658	795	1.155	9.969 138 575 099	150 678 941	580 090	708
1.106	9.977 247 642 901	180 005 374	616 863	794	1.156	9.968 987 896 158	150 098 851	579 382	708
1.107	9.977 067 637 527	179 388 511	616 069	792	1.157	9.968 837 797 307	149 519 469	578 674	703
1.108	9.976 888 249 016	178 772 442	615 277	791	1.158	9.968 688 277 838	148 940 795	577 971	703
1.109	9.976 709 476 574	178 157 165	614 486	787	1.159	9.968 539 337 043	148 362 824	577 268	701
1.110	9.976 531 319 409	177 542 679	613 699	787	1.160	9.968 390 974 219	147 785 556	576 567	700
1.111	9.976 353 776 730	176 928 980	612 912	784	1.161	9.968 243 188 663	147 208 989	575 867	698
1.112	9.976 176 847 750	176 316 068	612 128	783	1.162	9.968 095 979 674	146 633 122	575 169	697
1.113	9.976 000 531 682	175 703 940	611 345	780	1.163	9.967 949 346 552	146 057 953	574 472	694
1.114	9.975 824 827 742	175 092 595	610 565	779	1.164	9.967 803 288 599	145 483 481	573 778	693
1.115	9.975 649 735 147	174 482 030	609 786	778	1.165	9.967 657 805 118	144 909 703	573 085	693
1.116	9.975 475 253 117	173 872 244	609 008	775	1.166	9.967 512 895 415	144 336 618	572 392	689
1.117	9.975 301 380 873	173 263 236	608 233	772	1.167	9.967 368 558 797	143 764 226	571 703	689
1.118	9.975 128 117 637	172 655 003	607 461	772	1.168	9.967 224 794 571	143 192 523	571 014	688
1.119	9.974 955 462 634	172 047 542	606 689	770	1.169	9.967 081 602 048	142 621 509	570 326	684
1.120	9.974 783 415 092	171 440 853	605 919	768	1.170	9.966 938 980 539	142 051 183	569 642	684
1.121	9.974 611 974 239	170 834 934	605 151	766	1.171	9.966 796 929 356	141 481 541	568 958	684
1.122	9.974 441 139 305	170 229 783	604 385	763	1.172	9.966 655 447 815	140 912 583	568 274	679
1.123	9.974 270 909 522	169 625 398	603 622	764	1.173	9.966 514 535 232	140 344 309	567 595	680
1.124	9.974 101 284 124	169 021 776	602 858	759	1.174	9.966 374 190 923	139 776 714	566 915	678
1.125	9.973 932 262 348	168 418 918	602 099	759	1.175	9.966 234 414 209	139 209 799	566 237	677
1.126	9.973 763 843 430	167 816 819	601 340	758	1.176	9.966 095 204 410	138 643 562	565 560	673
1.127	9.973 596 026 611	167 215 479	600 582	755	1.177	9.965 956 560 848	138 078 002	564 887	675
1.128	9.973 428 811 132	166 614 897	599 827	753	1.178	9.965 818 482 846	137 513 115	564 212	671
1.129	9.973 262 196 235	166 015 070	599 074	752	1.179	9.965 680 969 731	136 948 903	563 541	671
1.130	9.973 096 181 165	165 415 996	598 322	749	1.180	9.965 544 020 828	136 385 362	562 870	666
1.131	9.972 930 765 169	164 817 674	597 573	749	1.181	9.965 407 635 466	135 822 492	562 204	670
1.132	9.972 765 947 495	164 220 101	596 824	747	1.182	9.965 271 812 974	135 260 288	561 534	665
1.133	9.972 601 727 394	163 623 277	596 077	743	1.183	9.965 136 552 686	134 698 754	560 869	665
1.134	9.972 438 104 117	163 027 200	595 334	744	1.184	9.965 001 853 932	134 137 885	560 204	662
1.135	9.972 275 076 917	162 431 866	594 590	741	1.185	9.964 867 716 047	133 577 681	559 542	661
1.136	9.972 112 645 051	161 837 276	593 849	739	1.186	9.964 734 138 366	133 018 139	558 881	660
1.137	9.971 950 807 775	161 243 427	593 110	738	1.187	9.964 601 120 227	132 459 258	558 221	659
1.138	9.971 789 564 348	160 650 317	592 372	736	1.188	9.964 468 660 969	131 901 037	557 562	657
1.139	9.971 628 914 031	160 057 945	591 636	735	1.189	9.964 336 759 932	131 343 475	556 905	656
1.140	9.971 468 856 086	159 466 309	590 901	732	1.190	9.964 205 416 457	130 786 570	556 249	652
1.141	9.971 309 389 777	158 875 408	590 169	730	1.191	9.964 074 629 887	130 230 321	555 597	654
1.142	9.971 150 514 369	158 285 239	589 439	731	1.192	9.963 944 399 566	129 674 724	554 943	652
1.143	9.970 992 229 130	157 695 800	588 708	726	1.193	9.963 814 724 842	129 119 781	554 291	648
1.144	9.970 834 533 330	157 107 092	587 982	726	1.194	9.963 685 605 061	128 565 490	553 643	649
1.145	9.970 677 426 238	156 519 110	587 256	724	1.195	9.963 557 039 571	128 011 847	552 994	647
1.146	9.970 520 907 128	155 931 854	586 532	724	1.196	9.963 429 027 724	127 458 853	552 347	645
1.147	9.970 364 975 274	155 345 322	585 808	720	1.197	9.963 301 568 871	126 906 506	551 702	645
1.148	9.970 209 629 952	154 759 514	585 088	718	1.198	9.963 174 662 365	126 354 804	551 057	642
1.149	9.970 054 870 438	154 174 426	584 370	718	1.199	9.963 048 307 561	125 803 747	550 415	640
1.150	9.969 900 696 012	153 590 056	583 652	717	1.200	9.962 922 503 814	125 253 332	549 775	642

a	Log. Γ*a*.	Diff. I.	II.	III.	*a*	Log. Γ*a*.	Diff. I.	II.	III.
1.200	9.962 922 503 814	125 253 332	549 775	642	1.250	9.957 321 083 716	98 521 914	519 417	575
1.201	9.962 797 250 482	124 703 557	549 133	637	1.251	9.957 222 561 802	98 002 497	518 842	575
1.202	9.962 672 546 925	124 154 424	548 496	637	1.252	9.957 124 559 305	97 483 655	518 270	572
1.203	9.962 548 392 501	123 605 928	547 859	637	1.253	9.957 027 075 650	96 965 385	517 698	572
1.204	9.962 424 786 573	123 058 069	547 222	632	1.254	9.956 930 110 265	96 447 687	517 126	571
1.205	9.962 301 728 504	122 510 847	546 590	635	1.255	9.956 833 662 578	95 930 561	516 555	570
1.206	9.962 179 217 657	121 964 257	545 955	630	1.256	9.956 737 732 017	95 414 006	515 985	565
1.207	9.962 057 253 400	121 418 302	545 325	630	1.257	9.956 642 318 011	94 898 021	515 420	568
1.208	9.961 935 835 098	120 872 977	544 695	630	1.258	9.956 547 419 990	94 382 601	514 852	566
1.209	9.961 814 962 121	120 328 282	544 065	626	1.259	9.956 453 037 389	93 867 749	514 286	563
1.210	9.961 694 633 839	119 784 217	543 439	627	1.260	9.956 359 169 640	93 353 463	513 723	563
1.211	9.961 574 849 622	119 240 778	542 812	625	1.261	9.956 265 816 177	92 839 740	513 160	561
1.212	9.961 455 608 844	118 697 966	542 187	621	1.262	9.956 172 976 437	92 326 580	512 599	561
1.213	9.961 336 910 878	118 155 779	541 566	624	1.263	9.956 080 649 857	91 813 981	512 038	561
1.214	9.961 218 755 099	117 614 213	540 942	620	1.264	9.955 988 835 876	91 301 943	511 477	557
1.215	9.961 101 140 886	117 073 271	540 322	620	1.265	9.955 897 533 933	90 790 466	510 920	557
1.216	9.960 984 067 615	116 532 949	539 702	616	1.266	9.955 806 743 467	90 279 546	510 363	558
1.217	9.960 867 534 666	115 993 247	539 086	618	1.267	9.955 716 463 921	89 769 183	509 805	553
1.218	9.960 751 541 419	115 454 161	538 468	616	1.268	9.955 626 694 738	89 259 378	509 252	553
1.219	9.960 636 087 258	114 915 693	537 852	612	1.269	9.955 537 435 360	88 750 126	508 699	553
1.220	9.960 521 171 565	114 377 841	537 240	613	1.270	9.955 448 685 234	88 241 427	508 146	554
1.221	9.960 406 793 724	113 840 601	536 627	612	1.271	9.955 360 443 807	87 733 281	507 592	549
1.222	9.960 292 953 123	113 303 974	536 015	610	1.272	9.955 272 710 526	87 225 689	507 043	548
1.223	9.960 179 649 149	112 767 959	535 405	609	1.273	9.955 185 484 837	86 718 646	506 495	548
1.224	9.960 066 881 190	112 232 554	534 796	606	1.274	9.955 098 766 191	86 212 151	505 947	549
1.225	9.959 954 648 636	111 697 758	534 190	607	1.275	9.955 012 554 040	85 706 204	505 398	545
1.226	9.959 842 950 878	111 163 568	533 583	605	1.276	9.954 926 847 836	85 200 806	504 853	545
1.227	9.959 731 787 310	110 629 985	532 978	602	1.277	9.954 841 647 030	84 695 953	504 308	542
1.228	9.959 621 157 325	110 097 007	532 376	604	1.278	9.954 756 951 077	84 191 645	503 766	543
1.229	9.959 511 060 318	109 564 631	531 772	600	1.279	9.954 672 759 432	83 687 879	503 223	543
1.230	9.959 401 495 687	109 032 859	531 172	600	1.280	9.954 589 071 553	83 184 656	502 680	539
1.231	9.959 292 462 828	108 501 687	530 572	598	1.281	9.954 505 886 897	82 681 976	502 141	539
1.232	9.959 183 961 141	107 971 115	529 974	597	1.282	9.954 423 204 921	82 179 835	501 602	538
1.233	9.959 075 990 026	107 441 141	529 377	596	1.283	9.954 341 025 086	81 678 233	501 064	538
1.234	9.958 968 548 885	106 911 764	528 781	595	1.284	9.954 259 346 853	81 177 169	500 526	536
1.235	9.958 861 637 121	106 382 983	528 186	592	1.285	9.954 178 169 684	80 676 643	499 990	535
1.236	9.958 755 254 138	105 854 797	527 594	593	1.286	9.954 097 493 041	80 176 653	499 455	532
1.237	9.958 649 399 341	105 327 203	527 001	591	1.287	9.954 017 316 388	79 677 198	498 923	534
1.238	9.958 544 072 138	104 800 202	526 410	589	1.288	9.953 937 639 190	79 178 275	498 389	532
1.239	9.958 439 271 936	104 273 792	525 821	589	1.289	9.953 858 460 915	78 679 886	497 857	529
1.240	9.958 334 998 144	103 747 971	525 232	586	1.290	9.953 779 781 029	78 182 029	497 328	531
1.241	9.958 231 250 173	103 222 739	524 646	586	1.291	9.953 701 599 000	77 684 701	496 797	528
1.242	9.958 128 027 434	102 698 093	524 060	585	1.292	9.953 623 914 299	77 187 904	496 269	526
1.243	9.958 025 329 341	102 174 033	523 475	583	1.293	9.953 546 726 395	76 691 635	495 743	528
1.244	9.957 923 155 308	101 650 558	522 892	582	1.294	9.953 470 034 760	76 195 892	495 215	525
1.245	9.957 821 504 750	101 127 666	522 310	582	1.295	9.953 393 838 868	75 700 677	494 690	523
1.246	9.957 720 377 084	100 605 356	521 728	577	1.296	9.953 318 138 191	75 205 987	494 167	525
1.247	9.957 619 771 728	100 083 628	521 151	581	1.297	9.953 242 932 204	74 711 820	493 642	520
1.248	9.957 519 688 100	99 562 477	520 570	577	1.298	9.953 168 220 384	74 218 178	493 122	523
1.249	9.957 420 125 623	99 041 907	519 993	576	1.299	9.953 094 002 206	73 725 056	492 599	518
1.250	9.957 321 083 716	98 521 914	519 417	575	1.300	9.953 020 277 150	73 232 457	492 081	519

a.	Log. Γa.	Diff. I.	II.	III.	a.	Log. Γa.	Diff. I.	II.	III.
1.300	9.953 020 277 150	73 232 457	492 081	519	1.350	9.949 951 514 191	49 244 477	467 349	472
1.301	9.952 947 044 693	72 740 376	491 562	519	1.351	9.949 902 269 714	48 777 128	466 877	470
1.302	9.952 874 304 317	72 248 814	491 043	518	1.352	9.949 853 492 586	48 310 251	466 407	466
1.303	9.952 802 055 503	71 757 771	490 525	513	1.353	9.949 805 182 335	47 843 844	465 941	470
1.304	9.952 730 297 732	71 267 246	490 012	517	1.354	9.949 757 338 491	47 377 903	465 471	468
1.305	9.952 659 030 486	70 777 234	489 495	512	1.355	9.949 709 960 588	46 912 432	465 003	464
1.306	9.952 588 253 252	70 287 739	488 983	514	1.356	9.949 663 048 156	46 447 429	464 539	466
1.307	9.952 517 965 513	69 798 756	488 469	511	1.357	9.949 616 600 727	45 982 890	464 073	465
1.308	9.952 448 166 757	69 310 287	487 958	512	1.358	9.949 570 617 837	45 518 817	463 608	464
1.309	9.952 378 856 470	68 822 329	487 446	509	1.359	9.949 525 099 020	45 055 209	463 144	460
1.310	9.952 310 034 141	68 334 883	486 937	508	1.360	9.949 480 043 811	44 592 065	462 684	462
1.311	9.952 241 699 258	67 847 946	486 429	509	1.361	9.949 435 451 746	44 129 381	462 222	462
1.312	9.952 173 851 312	67 361 517	485 920	506	1.362	9.949 391 322 365	43 667 159	461 760	459
1.313	9.952 106 489 795	66 875 597	485 414	504	1.363	9.949 347 655 206	43 205 399	461 301	459
1.314	9.952 039 614 198	66 390 183	484 910	505	1.364	9.949 304 449 807	42 744 098	460 842	458
1.315	9.951 973 224 015	65 905 273	484 405	506	1.365	9.949 261 705 709	42 283 256	460 384	459
1.316	9.951 907 318 742	65 420 868	483 899	502	1.366	9.949 219 422 453	41 822 872	459 925	456
1.317	9.951 841 897 874	64 936 969	483 397	503	1.367	9.949 177 599 581	41 362 947	459 469	455
1.318	9.951 776 960 905	64 453 572	482 894	499	1.368	9.949 136 236 634	40 903 478	459 014	454
1.319	9.951 712 507 333	63 970 678	482 395	498	1.369	9.949 095 333 156	40 444 464	458 560	454
1.320	9.951 648 536 655	63 488 283	481 897	501	1.370	9.949 054 888 692	39 985 904	458 106	454
1.321	9.951 585 048 372	63 006 386	481 396	497	1.371	9.949 014 902 788	39 527 798	457 652	452
1.322	9.951 522 041 986	62 524 990	480 899	497	1.372	9.948 975 374 990	39 070 146	457 200	450
1.323	9.951 459 516 996	62 044 091	480 402	495	1.373	9.948 936 304 844	38 612 946	456 750	451
1.324	9.951 397 472 905	61 563 689	479 907	497	1.374	9.948 897 691 898	38 156 196	456 299	450
1.325	9.951 335 909 216	61 083 782	479 410	493	1.375	9.948 859 535 702	37 699 897	455 849	449
1.326	9.951 274 825 434	60 604 372	478 917	492	1.376	9.948 821 835 805	37 244 048	455 400	447
1.327	9.951 214 221 062	60 125 455	478 425	491	1.377	9.948 784 591 757	36 788 648	454 953	449
1.328	9.951 154 095 607	59 647 030	477 934	494	1.378	9.948 747 803 109	36 333 695	454 504	444
1.329	9.951 094 448 577	59 169 096	477 440	489	1.379	9.948 711 469 414	35 879 191	454 060	445
1.330	9.951 035 279 481	58 691 656	476 951	487	1.380	9.948 675 590 223	35 425 131	453 615	447
1.331	9.950 976 587 825	58 214 705	476 464	490	1.381	9.948 640 165 092	34 971 516	453 168	443
1.332	9.950 918 373 120	57 738 241	475 974	488	1.382	9.948 605 193 576	34 518 348	452 725	442
1.333	9.950 860 634 879	57 262 267	475 486	483	1.383	9.948 570 675 228	34 065 623	452 283	442
1.334	9.950 803 372 612	56 786 781	475 003	488	1.384	9.948 536 609 605	33 613 340	451 841	442
1.335	9.950 746 585 831	56 311 778	474 515	484	1.385	9.948 502 996 265	33 161 499	451 399	440
1.336	9.950 690 274 053	55 837 263	474 031	484	1.386	9.948 469 834 766	32 710 100	450 959	439
1.337	9.950 634 436 790	55 363 232	473 547	483	1.387	9.948 437 124 666	32 259 141	450 520	440
1.338	9.950 579 073 558	54 889 685	473 066	480	1.388	9.948 404 865 525	31 808 621	450 080	438
1.339	9.950 524 183 873	54 416 619	472 586	484	1.389	9.948 373 056 904	31 358 541	449 642	437
1.340	9.950 469 767 254	53 944 033	472 102	480	1.390	9.948 341 698 363	30 908 899	449 205	436
1.341	9.950 415 823 221	53 471 931	471 622	476	1.391	9.948 310 789 464	30 459 694	448 769	436
1.342	9.950 362 351 290	53 000 309	471 146	478	1.392	9.948 280 329 770	30 010 925	448 333	435
1.343	9.950 309 350 981	52 529 163	470 668	479	1.393	9.948 250 318 845	29 562 592	447 898	432
1.344	9.950 256 821 818	52 058 495	470 189	475	1.394	9 948 220 756 253	29 114 694	447 466	435
1.345	9.950 204 763 323	51 588 306	469 714	474	1.395	9.948 191 641 559	28 667 228	447 031	432
1.346	9.950 153 175 017	51 118 592	469 240	475	1.396	9.948 162 974 331	28 220 197	446 599	432
1.347	9.950 102 056 425	50 649 352	468 765	473	1.397	9.948 134 754 134	27 773 598	446 167	430
1.348	9.950 051 407 073	50 180 587	468 292	474	1.398	9.948 106 980 536	27 327 431	445 737	431
1.349	9.950 001 226 486	49 712 295	467 818	469	1.399	9.948 079 653 105	26 881 694	445 306	428
1.350	9.949 951 514 191	49 244 477	467 349	472	1.400	9.948 052 771 411	26 436 388	444 878	429

a.	Log. Γa.	Diff. I.	II.	III.	a.	Log. Γa.	Diff. I.	II.	III.
1.400	9.948 052 771 411	26 436 388	444 878	429	1.450	9.947 267 707 452	4 702 338	424 382	392
1.401	9.948 026 335 023	25 991 510	444 449	426	1.451	9.947 263 005 114	4 277 956	423 990	390
1.402	9.948 000 343 513	25 547 061	444 023	428	1.452	9.947 258 727 158	3 853 966	423 600	390
1.403	9.947 974 796 452	25 103 038	443 595	427	1.453	9.947 254 873 192	3 430 366	423 210	390
1.404	9.947 949 693 414	24 659 443	443 168	425	1.454	9.947 251 442 826	3 007 156	422 820	388
1.405	9.947 925 033 971	24 216 275	442 743	424	1.455	9.947 248 435 670	2 584 336	422 432	388
1.406	9.947 900 817 696	23 773 532	442 319	423	1.456	9.947 245 851 334	2 161 904	422 044	389
1.407	9.947 877 044 164	23 331 213	441 896	424	1.457	9.947 243 689 430	1 739 860	421 655	385
1.408	9.947 853 712 951	22 889 317	441 472	423	1.458	9.947 241 949 570	1 318 205	421 270	387
1.409	9.947 830 823 634	22 447 845	441 049	419	1.459	9.947 240 631 365	896 935	420 883	385
1.410	9.947 808 375 789	22 006 796	440 630	421	1.460	9.947 239 734 430	476 052	420 498	385
1.411	9.947 786 368 993	21 566 166	440 209	422	1.461	9.947 239 258 378	− 55 554	420 113	383
1.412	9.947 764 802 827	21 125 957	439 787	418	1.462	9.947 239 202 824	+ 364 559	419 730	384
1.413	9.947 743 676 870	20 686 170	439 369	417	1.463	9.947 239 567 383	784 289	419 346	383
1.414	9.947 722 990 700	20 246 801	438 952	418	1.464	9.947 240 351 672	1 203 635	418 963	382
1.415	9.947 702 743 899	19 807 849	438 534	418	1.465	9.947 241 555 307	1 622 598	418 581	380
1.416	9.947 682 936 050	19 369 315	438 116	416	1.466	9.947 243 177 905	2 041 179	418 201	381
1.417	9.947 663 566 735	18 931 199	437 700	415	1.467	9.947 245 219 084	2 559 380	417 820	382
1.418	9.947 644 635 536	18 493 499	437 285	414	1.468	9.947 247 678 464	2 877 200	417 438	378
1.419	9.947 626 142 037	18 056 214	436 871	414	1.469	9.947 250 555 664	3 294 638	417 060	378
1.420	9.947 608 085 823	17 619 343	436 457	414	1.470	9.947 253 850 302	3 711 698	416 682	378
1.421	9.947 590 466 480	17 182 886	436 043	410	1.471	9.947 257 562 000	4 128 380	416 304	378
1.422	9.947 573 283 594	16 746 843	435 633	414	1.472	9.947 261 690 380	4 544 684	415 926	378
1.423	9.947 556 536 751	16 311 210	435 219	410	1.473	9.947 266 235 064	4 960 610	415 548	374
1.424	9.947 540 225 541	15 875 991	434 809	409	1.474	9.947 271 195 674	5 376 158	415 174	376
1.425	9.947 524 349 550	15 441 182	434 400	411	1.475	9.947 276 571 832	5 791 332	414 798	375
1.426	9.947 508 908 368	15 006 782	433 989	408	1.476	9.947 282 363 164	6 206 130	414 423	374
1.427	9.947 493 901 586	14 572 793	433 581	408	1.477	9.947 288 569 294	6 620 553	414 049	374
1.428	9.947 479 328 793	14 139 212	433 173	406	1.478	9.947 295 189 847	7 034 602	413 675	372
1.429	9.947 465 189 581	13 706 039	432 767	407	1.479	9.947 302 224 449	7 448 277	413 303	371
1.430	9.947 451 483 542	13 273 272	432 360	407	1.480	9.947 309 672 726	7 861 580	412 932	374
1.431	9.947 438 210 270	12 840 912	431 953	404	1.481	9.947 317 534 306	8 274 512	412 558	370
1.432	9.947 425 369 358	12 408 959	431 549	404	1.482	9.947 325 808 818	8 687 070	412 188	370
1.433	9.947 412 960 399	11 977 410	431 145	403	1.483	9.947 334 495 888	9 099 258	411 818	370
1.434	9.947 400 982 989	11 546 265	430 742	404	1.484	9.947 343 595 146	9 511 076	411 448	368
1.435	9.947 389 436 724	11 115 523	430 338	402	1.485	9.947 353 106 222	9 922 524	411 080	368
1.436	9.947 378 321 201	10 685 185	429 936	401	1.486	9.947 363 028 746	10 333 604	410 712	370
1.437	9.947 367 636 016	10 255 249	429 535	400	1.487	9.947 373 362 350	10 744 316	410 342	366
1.438	9.947 357 380 767	9 825 714	429 135	400	1.488	9.947 384 106 666	11 154 658	499 976	366
1.439	9.947 347 555 053	9 396 579	428 735	399	1.489	9.947 395 261 324	11 564 634	409 610	366
1.440	9.947 338 158 474	8 967 844	428 336	400	1.490	9.947 406 825 958	11 974 244	409 244	365
1.441	9.947 329 190 630	8 539 508	427 936	398	1.491	9.947 418 800 202	12 383 488	408 879	365
1.442	9.947 320 651 122	8 111 572	427 538	395	1.492	9.947 431 183 690	12 792 367	408 514	364
1.443	9.947 312 539 550	7 684 034	427 143	398	1.493	9.947 443 976 057	13 200 881	408 150	363
1.444	9.947 304 855 516	7 256 891	426 745	394	1.494	9.947 457 176 938	13 609 031	407 787	363
1.445	9.947 297 598 625	6 830 146	426 351	397	1.495	9.947 470 785 969	14 016 818	407 424	361
1.446	9.947 290 768 479	6 403 795	425 954	392	1.496	9.947 484 802 787	14 424 242	407 063	364
1.447	9.947 284 364 684	5 977 841	425 562	395	1.497	9.947 499 227 029	14 831 305	406 699	358
1.448	9.947 278 386 843	5 552 279	425 167	393	1.498	9.947 514 058 334	15 238 004	406 341	362
1.449	9.947 272 834 564	5 127 112	424 774	392	1.499	9.947 529 296 338	15 644 345	405 979	359
1.450	9.947 267 707 452	4 702 338	424 382	392	.500	9.947 544 940 683	16 050 324	405 620	359

a.	Log. Γ*a*.	Diff. I.	II.	III.	*a*.	Log. Γ*a*.	Diff. I.	II.	III.
1.500	9.947 544 940 683	16 050 324	405 620	359	1.550	9.948 837 441 447	35 903 111	388 386	331
1.501	9.947 560 991 007	16 455 944	405 261	359	1.551	9.948 873 344 558	36 291 497	388 055	327
1.502	9.947 577 446 951	16 861 205	404 902	357	1.552	9.948 909 636 055	36 679 552	387 728	332
1.503	9.947 594 308 156	17 266 107	404 545	358	1.553	9.948 946 315 607	37 067 280	387 396	328
1.504	9.947 611 574 263	17 670 652	404 187	356	1.554	9.948 983 382 887	37 454 676	387 068	329
1.505	9.947 629 244 915	18 074 839	403 831	356	1.555	9.949 020 837 563	37 841 744	386 739	325
1.506	9.947 647 319 754	18 478 670	403 475	356	1.556	9.949 058 679 307	38 228 483	386 414	329
1.507	9.947 665 798 424	18 882 145	403 119	354	1.557	9.949 096 907 790	38 614 897	386 085	326
1.508	9.947 684 680 569	19 285 264	402 765	355	1.558	9.949 135 522 687	39 000 982	385 759	327
1.509	9.947 703 965 833	19 688 029	402 410	353	1.559	9.949 174 523 669	39 386 741	385 432	324
1.510	9.947 723 653 862	20 090 439	402 057	353	1.560	9.949 213 910 410	39 772 173	385 108	327
1.511	9.947 743 744 201	20 492 496	401 704	352	1.561	9.949 253 682 583	40 157 281	384 781	323
1.512	9.947 764 236 797	20 894 200	401 352	354	1.562	9.949 293 839 864	40 542 062	384 458	323
1.513	9.947 785 130 997	21 295 552	400 998	349	1.563	9.949 334 381 926	40 926 520	384 135	326
1.514	9.947 806 426 549	21 696 550	400 649	351	1.564	9.949 375 308 346	41 310 655	383 809	321
1.515	9.947 828 123 099	22 097 199	400 298	350	1.565	9.949 416 619 101	41 694 464	383 488	323
1.516	9.947 850 220 298	22 497 497	399 948	350	1.566	9.949 458 313 565	42 077 952	383 165	321
1.517	9.947 872 717 795	22 897 445	399 598	349	1.567	9.949 500 391 517	42 461 117	382 844	322
1.518	9.947 895 615 240	23 297 043	399 249	348	1.568	9.949 542 852 634	42 843 961	382 522	322
1.519	9.947 918 912 283	23 696 292	398 901	347	1.569	9.949 585 696 595	43 226 483	382 200	319
1.520	9.947 942 608 575	24 095 193	398 554	348	1.570	9.949 628 923 078	43 608 683	381 881	319
1.521	9.947 966 703 768	24 493 747	398 206	347	1.571	9.949 672 531 761	43 990 564	381 562	320
1.522	9.947 991 197 515	24 891 953	397 859	345	1.572	9.949 716 522 325	44 372 126	381 242	320
1.523	9.948 016 089 468	25 289 812	397 514	346	1.573	9.949 760 894 451	44 753 368	380 922	317
1.524	9.948 041 379 280	25 687 326	397 168	344	1.574	9.949 805 647 819	45 134 290	380 605	317
1.525	9.948 067 066 606	26 084 494	396 824	344	1.575	9.949 850 782 109	45 514 895	380 288	318
1.526	9.948 093 151 100	26 481 318	396 480	344	1.576	9.949 896 297 004	45 895 183	379 970	317
1.527	9.948 119 632 418	26 877 798	396 136	345	1.577	9.949 942 192 187	46 275 153	379 653	316
1.528	9.948 146 510 216	27 273 934	395 791	341	1.578	9.949 988 467 340	46 654 806	379 337	315
1.529	9.948 173 784 150	27 669 725	395 450	341	1.579	9.950 035 122 146	47 034 143	379 022	317
1.530	9.948 201 453 875	28 065 175	395 109	342	1.580	9.950 082 156 289	47 413 105	378 705	313
1.531	9.948 229 519 050	28 460 284	394 767	342	1.581	9.950 129 569 454	47 791 870	378 392	314
1.532	9.948 257 979 334	28 855 051	394 425	340	1.582	9.950 177 361 324	48 170 262	378 078	314
1.533	9.948 286 834 385	29 249 476	394 085	339	1.583	9.950 225 531 586	48 548 340	377 764	315
1.534	9.948 316 083 861	29 643 561	393 746	339	1.584	9.950 274 079 926	48 926 104	377 449	311
1.535	9.948 345 727 422	30 037 307	393 407	339	1.585	9.950 323 006 030	49 303 553	377 138	311
1.536	9.948 375 764 729	30 430 714	393 068	338	1.586	9.950 372 309 583	49 680 691	376 827	313
1.537	9.948 406 195 443	30 823 782	392 730	337	1.587	9.950 421 990 274	50 057 518	376 514	312
1.538	9.948 437 019 225	31 216 512	392 393	337	1.588	9.950 472 047 792	50 434 032	376 202	310
1.539	9.948 468 235 737	31 608 905	392 056	336	1.589	9.950 522 481 824	50 810 234	375 892	309
1.540	9.948 499 844 642	32 000 961	391 720	337	1.590	9.950 573 292 058	51 186 126	375 583	311
1.541	9.948 531 845 603	32 392 681	391 383	334	1.591	9.950 624 478 184	51 561 709	375 272	310
1.542	9.948 564 238 284	32 784 064	391 049	336	1.592	9.950 676 039 893	51 936 981	374 962	307
1.543	9.948 597 022 348	33 175 113	390 713	334	1.593	9.950 727 976 874	52 311 943	374 655	308
1.544	9.948 630 197 461	33 565 826	390 379	332	1.594	9.950 780 288 817	52 686 598	374 347	309
1.545	9.948 663 763 287	33 956 205	390 047	335	1.595	9.950 832 975 415	53 060 945	374 038	308
1.546	9.948 697 719 492	34 346 252	389 712	331	1.596	9.950 886 036 360	53 434 982	373 730	305
1.547	9.948 732 065 744	34 735 964	389 381	332	1.597	9.950 939 471 343	53 808 713	373 425	307
1.548	9.948 766 801 708	35 125 345	389 049	332	1.598	9.950 993 280 056	54 182 138	373 118	306
1.549	9.948 801 927 053	35 514 394	388 717	331	1.599	9.951 047 462 194	54 555 256	372 812	305
1.550	9.948 837 441 447	35 903 111	388 386	331	1.600	9 951 102 017 450	54 928 068	372 507	305

a.	Log. Γa.	Diff. I.	II.	III.	a.	Log Γa.	Diff. I.	II.	III.
1.600	9.951 102 017 450	54 928 068	372 507	305	1.650	9.954 298 875 428	73 189 158	357 833	283
1.601	9.951 156 945 518	55 300 575	372 202	303	1.651	9.954 372 064 586	73 546 991	357 550	282
1.602	9.951 212 246 093	55 672 777	371 899	305	1.652	9.954 445 611 577	73 904 541	357 268	279
1.603	9.951 267 918 870	56 044 676	371 594	304	1.653	9.954 519 516 118	74 261 809	356 989	282
1.604	9.951 323 963 546	56 416 270	371 290	303	1.654	9.954 593 777 927	74 618 798	356 707	283
1.605	9.951 380 379 816	56 787 560	370 987	302	1.655	9.954 668 396 725	74 975 505	356 424	277
1.606	9.951 437 167 376	57 158 547	370 685	302	1.656	9.954 743 372 230	75 331 929	356 147	278
1.607	9.951 494 325 923	57 529 232	370 383	301	1.657	9.954 818 704 159	75 688 076	355 869	282
1.608	9.951 551 855 155	57 899 615	370 082	301	1.658	9.954 894 392 235	76 043 945	355 587	279
1.609	9.951 609 754 770	58 269 697	369 781	300	1.659	9.954 970 436 180	76 399 532	355 308	277
1.610	9.951 668 024 467	58 639 478	369 481	302	1.660	9.955 046 835 712	76 754 840	355 031	279
1.611	9.951 726 663 945	59 008 959	369 179	299	1.661	9.955 123 590 552	77 109 871	354 752	276
1.612	9.951 785 672 904	59 378 138	368 880	298	1.662	9.955 200 700 423	77 464 623	354 476	277
1.613	9.951 845 051 042	59 747 018	368 582	301	1.663	9.955 278 165 046	77 819 099	354 199	278
1.614	9.951 904 798 060	60 115 600	368 281	296	1.664	9.955 355 984 045	78 173 298	353 921	275
1.615	9.951 964 913 660	60 483 881	367 985	298	1.665	9.955 434 157 443	78 527 219	353 646	276
1.616	9.952 025 397 541	60 851 866	367 687	297	1.666	9.955 512 684 662	78 880 865	353 370	277
1.617	9.952 086 249 407	61 219 553	367 390	298	1.667	9.955 591 565 527	79 234 235	353 093	273
1.618	9.952 147 468 960	61 586 943	367 092	297	1.668	9.955 670 799 762	79 587 328	352 820	275
1.619	9.952 209 055 903	61 954 035	366 795	294	1.669	9.955 750 387 090	79 940 148	352 545	274
1.620	9.952 271 009 938	62 320 830	366 501	296	1.670	9.955 830 327 238	80 292 693	352 271	274
1.621	9.952 333 330 768	62 687 331	366 205	295	1.671	9.955 910 619 931	80 644 964	351 997	273
1.622	9.952 396 018 099	63 053 536	365 910	294	1.672	9.955 991 264 895	80 996 961	351 724	273
1.623	9.952 459 071 635	63 419 446	365 616	296	1.673	9.956 072 261 856	81 348 685	351 451	273
1.624	9.952 522 491 081	63 785 062	365 320	293	1.674	9.956 153 610 541	81 700 136	351 178	271
1.625	9.952 586 276 143	64 150 382	365 027	291	1.675	9.956 235 310 677	82 051 314	350 907	273
1.626	9.952 650 426 525	64 515 409	364 736	294	1.676	9.956 317 361 991	82 402 221	350 634	270
1.627	9.952 714 941 934	64 880 145	364 442	293	1.677	9.956 399 764 212	82 752 855	350 364	273
1.628	9.952 779 822 079	65 244 587	364 149	292	1.678	9.956 482 517 067	83 103 219	350 091	269
1.629	9.952 845 066 666	65 608 735	363 857	290	1.679	9.956 565 620 286	83 453 310	349 822	269
1.630	9.952 910 675 402	65 972 593	363 567	291	1.680	9.956 649 073 596	83 803 132	349 553	269
1.631	9.952 976 647 995	66 336 160	363 276	291	1.681	9.956 732 876 728	84 152 685	349 284	271
1.632	9.953 042 984 155	66 699 436	362 985	290	1.682	9.956 817 029 413	84 501 969	349 013	269
1.633	9.953 109 683 591	67 062 421	362 695	289	1.683	9.956 901 531 382	84 850 982	348 744	269
1.634	9.953 176 746 012	67 425 116	362 406	291	1.684	9.956 986 382 364	85 199 726	348 475	268
1.635	9.953 244 171 128	67 787 522	362 115	286	1.685	9.957 071 582 090	85 548 201	348 207	266
1.636	9.953 311 958 650	68 149 637	361 829	291	1.686	9.957 157 130 291	85 896 408	347 941	268
1.637	9.953 380 108 287	68 511 466	361 538	287	1.687	9.957 243 026 699	86 244 349	347 673	267
1.638	9.953 448 619 753	68 873 004	361 251	285	1.688	9.957 329 271 048	86 592 022	347 406	265
1.639	9.953 517 492 757	69 234 255	360 966	288	1.689	9.957 415 863 070	86 939 428	347 141	268
1.640	9.953 586 727 012	69 595 221	360 678	287	1.690	9.957 502 802 498	87 286 569	346 873	266
1.641	9.953 656 322 233	69 955 899	360 391	286	1.691	9.957 590 089 067	87 633 442	346 607	265
1.642	9.953 726 278 132	70 316 290	360 105	286	1.692	9.957 677 722 509	87 980 049	346 342	264
1.643	9.953 796 594 422	70 676 395	359 819	285	1.693	9.957 765 702 558	88 326 392	346 078	266
1.644	9.953 867 270 817	71 036 214	359 534	284	1.694	9.957 854 028 950	88 672 470	345 812	261
1.645	9.953 938 307 031	71 395 748	359 250	285	1.695	9.957 942 701 420	89 018 282	345 551	265
1.646	9.954 009 702 779	71 754 998	358 965	283	1.696	9.958 031 719 702	89 363 833	345 286	265
1.647	9.954 081 457 777	72 113 963	358 682	284	1.697	9.958 121 083 535	89 709 119	345 021	263
1.648	9.954 153 571 740	72 472 645	358 398	283	1.698	9.958 210 792 654	90 054 140	344 758	260
1.649	9.954 226 044 385	72 831 043	358 115	282	1.699	9.958 300 846 794	90 398 898	344 498	264
1.650	9.954 298 875 428	73 189 158	357 833	283	1.700	9.958 391 245 692	90 743 396	344 234	261

a.	Log. Γ*a.*	Diff. I.	II.	III.	*a.*	Log. Γ*a.*	Diff. I.	II.	III.
1.700	9.958 391 245 692	90 743 396	344 234	261	1.750	9.963 345 058 874	107 641 803	331 602	245
1.701	9.958 481 989 088	91 087 630	343 973	260	1.751	9.963 452 700 677	107 973 405	331 357	242
1.702	9.958 573 076 718	91 431 603	343 712	262	1.752	9.963 560 674 082	108 304 762	331 115	243
1.703	9.958 664 508 321	91 775 315	343 450	260	1.753	9.963 668 978 844	108 635 877	330 872	243
1.704	9.958 756 283 636	92 118 765	343 190	261	1.754	9.963 777 614 721	108 966 749	330 629	241
1.705	9.958 848 402 401	92 461 955	342 929	260	1.755	9.963 886 581 470	109 297 378	330 388	243
1.706	9.958 940 864 356	92 804 884	342 669	258	1.756	9.963 995 878 848	109 627 766	330 145	241
1.707	9.959 033 669 240	93 147 553	342 411	260	1.757	9.964 105 506 614	109 957 911	329 904	241
1.708	9.959 126 816 793	93 489 964	342 151	259	1.758	9.964 215 464 525	110 287 815	329 663	240
1.709	9.959 220 306 757	93 832 115	341 892	257	1.759	9.964 325 752 340	110 617 478	329 423	241
1.710	9.959 314 138 872	94 174 007	341 635	261	1.760	9.964 436 369 818	110 946 901	329 182	241
1.711	9.959 408 312 879	94 515 642	341 374	256	1.761	9.964 547 316 719	111 276 083	328 941	239
1.712	9.959 502 828 521	94 857 016	341 118	254	1.762	9.964 658 592 802	111 605 024	328 702	239
1.713	9.959 597 685 537	95 198 134	340 864	260	1.763	9.964 770 197 826	111 933 726	328 463	240
1.714	9.959 692 883 671	95 538 998	340 604	257	1.764	9.964 882 131 552	112 262 189	328 223	238
1.715	9.959 788 422 669	95 879 602	340 347	255	1.765	9.964 994 393 741	112 590 412	327 985	238
1.716	9.959 884 302 271	96 219 949	340 092	256	1.766	9.965 106 984 153	112 918 397	327 747	239
1.717	9.959 980 522 220	96 560 041	339 836	255	1.767	9.965 219 902 550	113 246 144	327 508	237
1.718	9.960 077 082 261	96 899 877	339 581	255	1.768	9.965 333 148 694	113 573 652	327 271	238
1.719	9.960 173 982 138	97 239 458	339 326	256	1.769	9.965 446 722 346	113 900 923	327 033	237
1.720	9.960 271 221 596	97 578 784	339 070	252	1.770	9.965 560 623 269	114 227 956	326 796	237
1.721	9.960 368 800 380	97 917 854	338 818	256	1.771	9.965 674 851 225	114 554 752	326 559	235
1.722	9.960 466 718 234	98 256 672	338 562	251	1.772	9.965 789 405 977	114 881 311	326 324	237
1.723	9.960 564 974 906	98 595 234	338 311	254	1.773	9.965 904 287 288	115 207 635	326 087	236
1.724	9.960 663 570 140	98 933 545	338 057	255	1.774	9.966 019 494 923	115 533 722	325 851	234
1.725	9.960 762 503 685	99 271 602	337 802	250	1.775	9.966 135 028 645	115 859 573	325 617	237
1.726	9.960 861 775 287	99 609 404	337 552	252	1.776	9.966 250 888 218	116 185 190	325 380	234
1.727	9.960 961 384 691	99 946 956	337 300	253	1.777	9.966 367 073 408	116 510 570	325 146	234
1.728	9.961 061 331 647	100 284 256	337 047	251	1.778	9.966 483 583 978	116 835 716	324 912	234
1.729	9.961 161 615 903	100 621 303	336 796	251	1.779	9.966 600 419 694	117 160 628	324 678	235
1.730	9.961 262 237 206	100 958 099	336 545	250	1.780	9.966 717 580 322	117 485 306	324 443	232
1.731	9.961 363 195 305	101 294 644	336 295	250	1.781	9.966 835 065 628	117 809 749	324 211	233
1.732	9.961 464 489 949	101 630 939	336 045	251	1.782	9.966 952 875 377	118 133 960	323 978	234
1.733	9.961 566 120 888	101 966 984	335 794	248	1.783	9.967 071 009 337	118 457 938	323 744	232
1.734	9.961 668 087 872	102 302 778	335 546	250	1.784	9.967 189 467 275	118 781 682	323 512	231
1.735	9.961 770 390 650	102 638 324	335 296	250	1.785	9.967 308 248 957	119 105 194	323 281	234
1.736	9.961 873 028 974	102 973 620	335 046	247	1.786	9.967 427 354 151	119 428 475	323 047	230
1.737	9.961 976 002 594	103 308 666	334 799	248	1.787	9.967 546 782 626	119 751 522	322 817	231
1.738	9.962 079 311 260	103 643 465	334 551	247	1.788	9.967 666 534 148	120 074 339	322 586	231
1.739	9.962 182 954 725	103 978 016	334 304	248	1.789	9.967 786 608 487	120 396 925	322 355	231
1.740	9.962 286 932 741	104 312 320	334 056	249	1.790	9.967 907 005 412	120 719 280	322 124	230
1.741	9.962 391 245 061	104 646 376	333 807	244	1.791	9.968 027 724 692	121 041 404	321 894	230
1.742	9.962 495 891 437	104 980 183	333 563	245	1.792	9.968 148 766 096	121 363 298	321 664	230
1.743	9.962 600 871 620	105 313 746	333 318	250	1.793	9.968 270 129 394	121 684 962	321 434	228
1.744	9.962 706 185 366	105 647 064	333 068	246	1.794	9.968 391 814 356	122 006 396	321 206	230
1.745	9.962 811 832 430	105 980 132	332 822	243	1.795	9.968 513 820 752	122 327 602	320 976	228
1.746	9.962 917 812 562	106 312 954	332 579	244	1.796	9.968 636 148 354	122 648 578	320 748	228
1.747	9.963 024 125 516	106 645 533	332 335	246	1.797	9.968 758 796 932	122 969 326	320 520	229
1.748	9.963 130 771 049	106 977 868	332 089	243	1.798	9.968 881 766 258	123 289 846	320 291	227
1.749	9.963 237 748 917	107 309 957	331 846	244	1.799	9.969 005 056 104	123 610 137	320 064	228
1.750	9.963 345 058 874	107 641 803	331 602	245	1.800	9.969 128 666 241	123 930 201	319 836	226

a.	Log. Γ*a.*	Diff. I.	II.	III.	*a.*	Log. Γ*a.*	Diff. I.	II.	III.
1.800	9.969 128 666 241	123 930 201	319 836	226	1.850	9.975 712 596 599	139 649 881	308 850	214
1.801	9.969 252 596 442	124 250 037	319 610	228	1.851	9.975 852 246 480	139 958 737	308 642	210
1.802	9.969 376 846 479	124 569 647	319 382	225	1.852	9.975 992 205 217	140 267 379	308 432	212
1.803	9.969 501 416 126	124 889 029	319 157	227	1.853	9.976 132 472 596	140 575 811	308 220	212
1.804	9.969 626 305 155	125 208 186	318 930	225	1.854	9.976 273 048 407	140 884 031	308 008	211
1.805	9.969 751 513 341	125 527 116	318 705	227	1.855	9.976 413 932 438	141 192 039	307 797	211
1.806	9.969 877 040 457	125 845 821	318 478	225	1.856	9.976 555 124 477	141 499 836	307 586	209
1.807	9.970 002 886 278	126 164 299	318 253	223	1.857	9.976 696 624 313	141 807 422	307 377	211
1.808	9.970 129 050 577	126 482 552	318 030	226	1.858	9.976 838 431 735	142 114 799	307 166	211
1.809	9.970 255 533 129	126 800 582	317 804	224	1.859	9.976 980 546 534	142 421 965	306 955	208
1.810	9.970 382 333 711	127 118 386	317 580	224	1.860	9.977 122 968 499	142 728 920	306 747	210
1.811	9.970 509 452 097	127 435 966	317 356	223	1.861	9.977 265 697 419	143 035 667	306 537	209
1.812	9.970 636 888 066	127 753 322	317 133	224	1.862	9.977 408 733 086	143 342 204	306 328	209
1.813	9.970 764 641 385	128 070 455	316 909	223	1.863	9.977 552 075 290	143 648 532	306 119	209
1.814	9.970 892 711 840	128 387 364	316 686	223	1.864	9.977 695 723 822	143 954 651	305 910	207
1.815	9.971 021 099 204	128 704 050	316 463	222	1.865	9.977 839 678 473	144 260 561	305 703	208
1.816	9.971 149 803 254	129 020 513	316 241	222	1.866	9.977 983 939 034	144 566 264	305 495	209
1.817	9.971 278 823 767	129 336 754	316 019	222	1.867	9.978 128 505 298	144 871 759	305 286	208
1.818	9.971 408 160 521	129 652 773	315 797	221	1.868	9.978 273 377 057	145 177 045	305 078	206
1.819	9.971 537 813 294	129 968 570	315 576	222	1.869	9.978 418 554 102	145 482 123	304 872	205
1.820	9.971 667 781 864	130 284 146	315 354	221	1.870	9.978 564 036 225	145 786 995	304 667	209
1.821	9 971 798 066 010	130 599 500	315 133	220	1.871	9.978 709 823 220	146 091 662	304 458	205
1.822	9.971 928 665 510	130 914 633	314 913	221	1.872	9.978 855 914 882	146 396 120	304 253	207
1.823	9.972 059 580 143	131 229 546	314 692	219	1.873	9.979 002 311 002	146 700 373	304 046	206
1.824	9.972 190 809 689	131 544 238	314 473	220	1.874	9.979 149 011 375	147 004 419	303 840	205
1.825	9.972 322 353 927	131 858 711	314 253	220	1.875	9.979 296 015 794	147 308 259	303 635	205
1.826	9.972 454 212 638	132 172 964	314 033	219	1.876	9.979 443 324 053	147 611 894	303 430	206
1.827	9.972 586 385 602	132 486 997	313 814	219	1.877	9.979 590 935 947	147 915 324	303 224	203
1.828	9.972 718 872 599	132 800 811	313 595	217	1.878	9.979 738 851 271	148 218 548	303 021	206
1.829	9.972 851 673 410	133 114 406	313 378	220	1.879	9.979 887 069 819	148 521 569	302 815	203
1.830	9.972 984 787 816	133 427 784	313 158	217	1.880	9.980 035 591 388	148 824 384	302 612	205
1.831	9.973 118 215 600	133 740 942	312 941	218	1.881	9.980 184 415 772	149 126 996	302 407	203
1.832	9.973 251 956 542	134 053 883	312 723	218	1.882	9.980 333 542 768	149 429 403	302 204	203
1.833	9.973 386 010 425	134 366 606	312 505	216	1.883	9.980 482 972 171	149 731 607	302 001	204
1.834	9.973 520 377 031	134 679 111	312 289	216	1.884	9.980 632 703 778	150 033 608	301 797	202
1.835	9.973 655 056 142	134 991 400	312 073	219	1.885	9.980 782 737 386	150 335 405	301 595	203
1.836	9.973 790 047 542	135 303 473	311 854	214	1.886	9 980 933 072 791	150 637 000	301 392	203
1.837	9.973 925 351 015	135 615 327	311 640	217	1.887	9.981 083 709 791	150 938 392	301 189	201
1.838	9.974 060 966 342	135 926 967	311 423	215	1.888	9.981 234 648 183	151 239 581	300 988	202
1.839	9.974 196 893 309	136 238 390	311 208	216	1.889	9.981 385 887 764	151 540 560	300 786	201
1.840	9.974 333 131 699	136 549 598	310 992	214	1.890	9.981 537 428 333	151 841 355	300 585	203
1.841	9.974 469 681 297	136 860 590	310 778	215	1.891	9.981 689 269 688	152 141 940	300 382	199
1.842	9.974 606 541 887	137 171 368	310 563	215	1.892	9.981 841 411 628	152 442 322	300 183	202
1.843	9.974 743 713 255	137 481 931	310 348	214	1.893	9.981 993 853 950	152 742 505	299 981	200
1.844	9.974 881 195 186	137 792 279	310 134	214	1.894	9.982 146 596 455	153 042 486	299 781	200
1.845	9.975 018 987 465	138 102 413	309 920	213	1.895	9.982 299 638 941	153 342 267	299 581	200
1.846	9.975 157 089 878	138 412 333	309 707	213	1.896	9.982 452 981 208	153 641 848	299 381	201
1.847	9 975 295 502 211	138 722 040	309 494	214	1.897	9.982 606 623 056	153 941 229	299 180	197
1.848	9.975 434 224 251	139 031 534	309 280	213	1.898	9.982 760 564 285	154 240 409	298 983	202
1.849	9.975 573 255 785	139 340 814	309 067	211	1.899	9.982 914 804 694	154 539 392	298 781	196
1.850	9.975 712 596 599	139 649 881	308 856	214	1.900	9.983 069 344 086	154 838 173	298 585	201

a.	Log. Γa.	Diff. I.	II.	III.	a.	Log. Γa.	Diff. I.	II.	III.
1.900	9.983 069 344 086	154 838 173	298 585	201	1.950	9.991 173 182 172	169 528 926	288 957	187
1.901	9.983 224 182 259	155 136 758	298 384	197	1.951	9.991 342 711 098	169 817 883	238 770	185
1.902	9.983 379 319 017	155 435 142	298 187	199	1.952	9.991 512 528 981	170 106 653	288 585	187
1.903	9.983 534 754 159	155 733 329	297 988	197	1.953	9.991 682 635 634	170 395 238	288 398	187
1.904	9.983 690 487 488	156 031 317	297 791	199	1.954	9.991 853 030 872	170 683 636	288 211	185
1.905	9.983 846 518 805	156 329 108	297 592	196	1.955	9.992 023 714 508	170 971 847	288 026	185
1.906	9.984 002 847 913	156 626 700	297 396	198	1.956	9.992 194 686 355	171 259 873	287 841	184
1.907	9.984 159 474 613	156 924 096	297 198	195	1.957	9.992 365 946 228	171 547 714	287 657	185
1.908	9.984 316 398 709	157 221 294	297 003	199	1.958	9.992 537 493 942	171 835 371	287 472	184
1.909	9.984 473 620 003	157 518 297	296 804	196	1.959	9.992 709 329 313	172 122 843	287 288	185
1.910	9.984 631 138 300	157 815 101	296 608	195	1.960	9.992 881 452 156	172 410 131	287 103	184
1.911	9.984 788 953 401	158 111 709	296 413	197	1.961	9.993 053 862 287	172 697 234	286 919	184
1.912	9.984 947 065 110	158 408 122	296 216	195	1.962	9.993 226 559 521	172 984 153	286 735	183
1.913	9.985 105 473 232	158 704 338	296 021	195	1.963	9.993 399 543 674	173 270 888	286 552	184
1.914	9.985 264 177 570	159 000 359	295 826	196	1.964	9.993 572 814 562	173 557 440	286 368	183
1.915	9.985 423 177 929	159 296 185	295 630	194	1.965	9.993 746 372 002	173 843 808	286 185	183
1.916	9.985 582 474 114	159 591 815	295 436	195	1.966	9.993 920 215 810	174 129 993	286 002	183
1.917	9.985 742 065 929	159 887 251	295 241	194	1.967	9.994 094 345 803	174 415 995	285 819	182
1.918	9.985 901 953 180	160 182 492	295 047	195	1.968	9.994 268 761 798	174 701 814	285 637	182
1.919	9.986 062 135 672	160 477 539	294 852	193	1.969	9.994 443 463 612	174 987 451	285 455	182
1.920	9.986 222 613 211	160 772 391	294 659	194	1.970	9.994 618 451 063	175 272 906	285 273	182
1.921	9.986 383 385 602	161 067 050	294 465	193	1.971	9.994 793 723 969	175 558 179	285 091	182
1.922	9.986 544 452 652	161 361 515	294 272	193	1.972	9.994 969 282 148	175 843 270	284 909	180
1.923	9.986 705 814 167	161 655 787	294 079	194	1.973	9.995 145 125 418	176 128 179	284 729	183
1.924	9.986 867 469 954	161 949 866	293 885	191	1.974	9.995 321 253 597	176 412 908	284 546	179
1.925	9.987 029 419 820	162 243 751	293 694	194	1.975	9.995 497 666 505	176 697 454	284 367	182
1.926	9.987 191 663 571	162 537 445	293 500	191	1.976	9.995 674 363 959	176 981 821	284 185	181
1.927	9.987 354 201 016	162 830 945	293 309	192	1.977	9.995 851 345 780	177 266 006	284 004	178
1.928	9.987 517 031 961	163 124 254	293 117	192	1.978	9.996 028 611 786	177 550 010	283 826	181
1.929	9.987 680 156 215	163 417 371	292 925	192	1.979	9.996 206 161 796	177 833 836	283 645	181
1.930	9.987 843 573 586	163 710 296	292 733	189	1.980	9.996 383 995 632	178 117 481	283 464	177
1.931	9.988 007 283 882	164 003 029	292 544	194	1.981	9.996 562 113 113	178 400 945	283 287	182
1.932	9.988 171 286 911	164 295 573	292 350	188	1.982	9.996 740 514 058	178 684 232	283 105	177
1.933	9.988 335 582 484	164 587 923	292 162	191	1.983	9.996 919 198 290	178 967 337	282 928	181
1.934	9.988 500 170 407	164 880 085	291 971	191	1.984	9.997 098 165 627	179 250 265	282 747	176
1.935	9.988 665 050 492	165 172 056	291 780	190	1.985	9.997 277 415 892	179 533 012	282 571	181
1.936	9.988 830 222 548	165 463 836	291 590	188	1.986	9.997 456 948 904	179 815 583	282 390	176
1.937	9.988 995 686 384	165 755 426	291 402	192	1.987	9.997 636 764 487	180 097 973	282 214	180
1.938	9.989 161 441 810	166 046 828	291 210	187	1.988	9.997 816 862 460	180 380 187	282 034	176
1.939	9.989 327 488 638	166 338 038	291 023	191	1.989	9.997 997 242 647	180 662 221	281 858	179
1.940	9.989 493 826 676	166 629 061	290 832	187	1.990	9.998 177 904 868	180 944 079	281 679	177
1.941	9.989 660 455 737	166 919 893	290 645	189	1.991	9.998 358 848 947	181 225 758	281 502	176
1.942	9.989 827 375 630	167 210 538	290 456	188	1.992	9.998 540 074 705	181 507 260	281 326	179
1.943	9.989 994 586 168	167 500 994	290 268	189	1.993	9.998 721 581 965	181 788 586	281 147	174
1.944	9.990 162 087 162	167 791 262	290 079	188	1.994	9.998 903 370 551	182 069 733	280 973	179
1.945	9.990 329 878 424	168 081 341	289 891	186	1.995	9.999 085 440 284	182 350 706	280 794	175
1.946	9.990 497 959 765	168 371 232	289 705	188	1.996	9.999 267 790 990	182 631 500	280 619	176
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1.948	9.990 834 991 934	168 950 454	289 330	188	1.998	9.999 633 334 609	183 192 562	280 267	176
1.949	9.991 003 942 388	169 239 784	289 142	185	1.999	9.999 816 527 171	183 472 829	280 091	175
1.950	9.991 173 182 172	169 528 926	288 957	187	2.000	0.000 000 000 000	183 752 920	279 916	175

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